

Bazzania sauropoda D.Meagher (Marchantiophyta: Lepidoziaceae), a new species from tropical Queensland

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Summary

Meagher, D. (2005). *Bazzania sauropoda* D.Meagher (Marchantiophyta: Lepidoziaceae), a new species from tropical Queensland. *Austrobaileya* 7(1): 129–133. *Bazzania sauropoda* sp. nov. (Marchantiophyta: Lepidoziaceae), a liverwort from tropical rainforest in north-eastern Queensland, is described, and its known distribution described.

Key Words: Lepidoziaceae, *Bazzania sauropoda*, bryophyte, liverwort, Marchantiophyta, Queensland flora

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Introduction

The genus *Bazzania* S.F. Gray (Lepidoziaceae) comprises leafy liverworts with two rows of lateral leaves inserted incubously on the stem, a row of underleaves on the ventral side of the stem, and minutely leafy ventral flagella arising from the axils of underleaves. In almost all species the branches grow as strongly as the stem from which they arise, so that the branching is distinctly Y-shaped and resembles dichotomous branching. For this reason, such branching is called ‘pseudodichotomous’. The branches are always of the *Frullania* type; that is, the branch replaces the ventral half of a lateral leaf, leaving the other half of the leaf in the branch junction on the dorsal side.

Numerous specimens of *Bazzania* have been collected in Queensland, but the names given to them have been largely incorrect. Many have been identified as *Bazzania involuta* (Mont.) Trev., but that species is confined to New Zealand and Tasmania (Meagher in press).

In Australia, the diversity of *Bazzania* species generally increases with decreasing latitude, culminating in a maximum diversity in the Wet Tropics World Heritage Area, where at least twenty species occur (Meagher 2003, 2005). Most of the species in northern Queensland are already known from New Guinea, Borneo, Java or other islands to the north, but some are undescribed, including the species now described here.

Taxonomy

Bazzania sauropoda D.Meagher sp. nov.

Bazzania foliis suboppositis, non vittatis, asymmetricis ovato-lingulatis, apicibus asymmetricis 3-dentatis sed aliter integris; amphigastriis incrassatis, praecipue profunde 3-lobatis sed plerumque cum lobis minoribus in lateribus; cellulis folii valde incrassatis et nodulosis, omnibus magnitudine similaribus; cellulis amphigastriorum similaribus sed minoribus; perianthio ubique quadricarinato.

Typus: Australia, Queensland. COOK DISTRICT: summit of Mount Lewis, Sept 1986, *G.A.M. Scott s.n.* (holo: MELU261; iso: BRI, CANB, F).

Plants robust, dioecious, strongly anisophyllous, pendent. Branching pseudodichotomous, the branches of *Frullania*-type, spreading widely (usually > 90°); branch dorsal half-leaf ± symmetric, narrowly ovate, tapering to an acute, undivided (rarely bifid) apex; first branch underleaf 1-fid or nearly 2-fid, not connate with the adjacent stem underleaf although closely situated to it. Leaves subopposite, spreading widely when moist but folded strongly to the ventral side of the stem when dry, not vittate, asymmetrically ovate-lingulate, mostly 1.2–1.6 mm x 0.65–0.8 mm, with an arched dorsal margin and a straight to slightly incurved ventral margin; apex much narrower than the rest of the leaf, mostly 3-fid but sometimes obscurely so, rarely with an extra

lobe or two; apical teeth short and blunt, sinuses between lobes ranging from widely lunate to narrowly triangular. Cells in mid-leaf mostly 20–30(–40) x 20–25(–30) μm , slightly smaller near the margins, in more-or-less regular longitudinal rows, very thick-walled, strongly nodulose, with massive, confluent and bulging trigones. Oil bodies transparent, 2–5 per cell, very variable in shape, from globular to ellipsoid, spindle-shaped or almost oblong, undivided, slightly lumpy. Underleaves mostly 0.45–0.60 mm x 0.35–0.50 mm, connate with leaves on one side only, variable in shape but mostly deeply 3-fid, lobes often ending in a small apiculus; additional smaller lobes sometimes present. Cells of the underleaves as for the leaves but slightly smaller. Perianth about 2.5 mm long, almost sessile on a very short ventral branch, unevenly 4-keeled throughout its length, narrowing to a very shortly ciliate mouth; outermost bracts (bracteoles) with broad lobes, intermediate bracts deeply and narrowly lobed, innermost bracts \pm lacinate; cells of intermediate and innermost bracts \pm rectangular, thick-walled, most (except those in laciniae) with a strong central papilla. Flagella numerous, long and thin, sparsely to moderately leafy. **Fig. 1.**

Additional specimens examined: Queensland. COOK DISTRICT: Mount Lewis, Aug 1995, *Brown 95/358* (NSW); Platypus Creek, Jan 1936, *Flecker s.n.* (CANB); Lamb Range, Apr 2005, *Meagher 2101* (MELU); Mount Lewis, Feb 1983, *Streimann 29787, 29791* (CANB); Lamb Range, Jun 1984, *Streimann 29828* (CANB); Bellenden Ker, South Peak, Mar 1983, *Streimann 27348* (CANB); Mount Finnigan, Cedar Bay N.P., Oct 1995, *Streimann 57207, 57208, 57209, 57226, 57135* (CANB); Windsor Tableland, Jun 1984, *Streimann 29586* (CANB). NORTH KENNEDY DISTRICT: Paluma Range, Cloudy Creek, Jun 2005, *Dalton s.n.* (MELU); Cardwell Range, Jun 1984, *Streimann 28625* (CANB).

Distribution and habitat: *Bazzania sauropoda* is known only from montane tropical rainforest at seven locations in the Wet Tropics World Heritage Area (**Map 1**). It is usually an epiphyte on small trees, but one specimen was found growing on rock.

Notes: Most species of *Bazzania* (and its partial synonym *Mastigobryum* Gott., Lindenb. & Nees) reported from the Australian tropics are well-known species that occur also in South East Asia and Melanesia (Meagher 2002, 2005; McCarthy 2003). Stephani (1908, 1924) described

many species from the region and illustrated them all in his unpublished 'Icons'. Significant studies and reviews of the genus *Bazzania* have since been undertaken for South East Asia and Melanesia by Evans (1933), Grolle (1968, 1972), Herzog (1931, 1949, 1953), Kitigawa (1972, 1973, 1979, 1980), Meijer (1960) and Tixiér (1985), and for other nearby and distant regions of the world by Arnell (1963), Engel & Merrill (1994), Engel & Schuster (1988), Fulford (1963), Grolle & Schultze-Motel (1973), Hattori & Mizutani (1958), Hodgson (1954), Jones (1975), Long & Grolle (1990), Magill & Schelpe (1979), Mizutani (1967), Pócs (1969, 1994), Scott (1985), Smith (1990) and Wiggington & Grolle (1996). Among the hundreds of species reported and described by these authors, none resembles the present species.

In *Bazzania sauropoda* the leaves are much the same shape as some other species, but the shape of the underleaves is very distinctive and does not resemble that of any other species. Furthermore, certain microscopic characters such as nodulose cells of more-or-less uniform size throughout the leaves and underleaves, and massive bulging trigones, are very uncommon in *Bazzania*.

Etymology: The specific epithet refers to the shape of the underleaves, which is reminiscent of the footprint of a large lizard.

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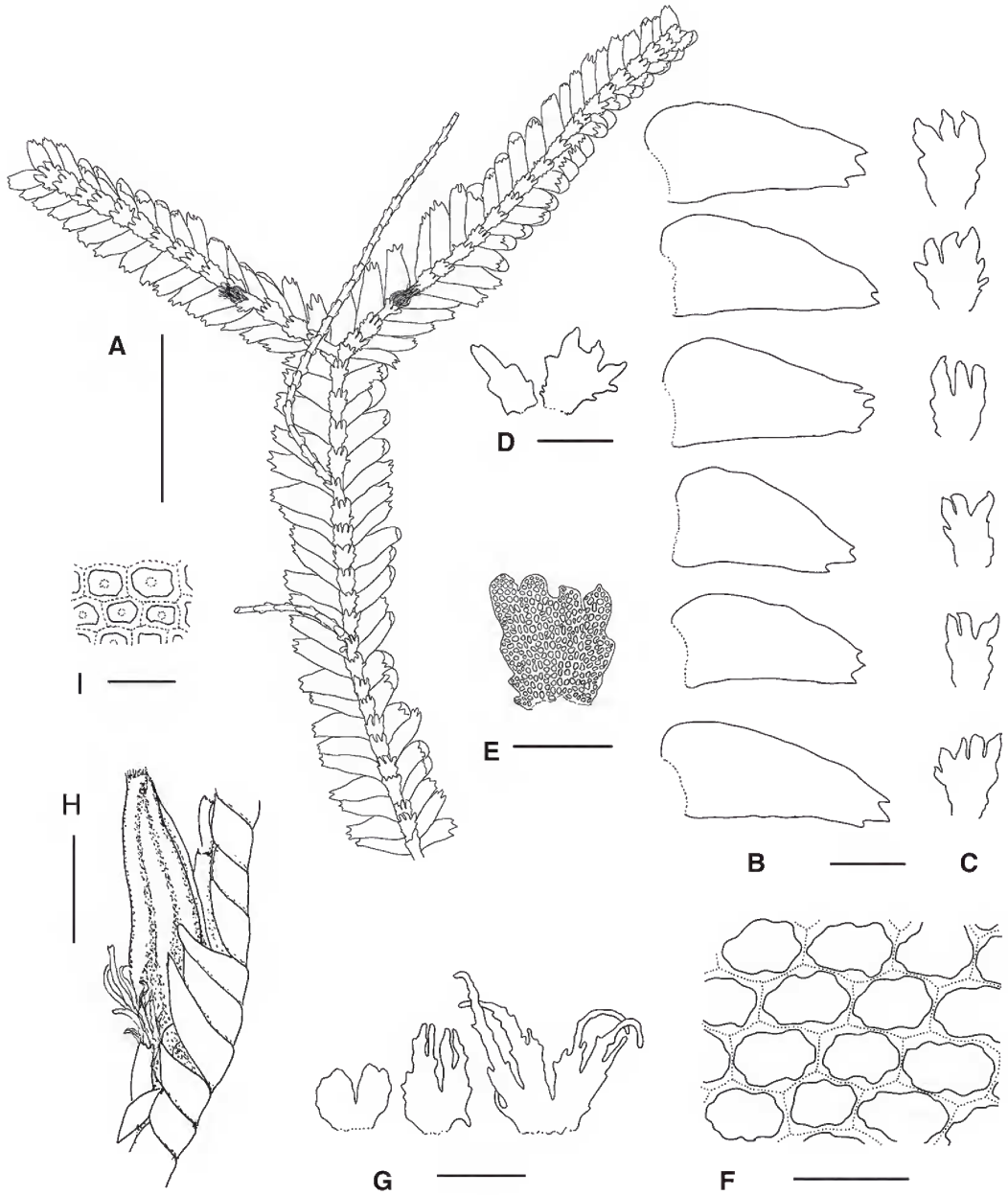
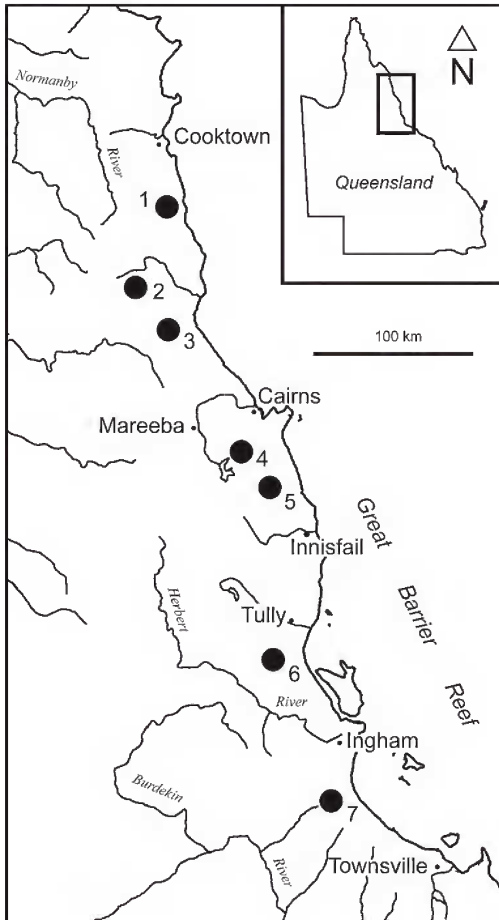


Fig. 1. *Bazzania sauropoda*. A. dorsal view of portion of moist plant with two young gynoecia. B. lateral leaves. C. underleaves. D. first branch underleaf and adjacent stem underleaf. E. underleaf. F. cells in centre of leaf. G. female bracts (left to right) outermost, intermediate, innermost. H. perianth (dry). I. cells of innermost bract. (Scale bars: A 5 mm, B–E, G–H 0.5 mm, F, I 0.05 mm, H 1 mm.).



Map 1. Distribution of *Bazzania sauropoda*. 1: Mount Finnigan. 2: Windsor Tableland. 3: Mount Lewis. 4: Lamb Range. 5: Bellenden Ker. 6: Cardwell Range. 7: Paluma Range.

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